



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

taking labor, and is a valuable addition to the literature of Economic Entomology. The number of subjects described is so large that it is impracticable to give an abstract of the report.

**THALESSA AND TREMEX.**—A paper was recently read by Prof. Riley, entitled "Notes on the Economy of *Thalessa* and *Tremex*." *Thalessa* is an Ichneumon fly having in some species an ovipositor six and seven inches in length. The eggs are laid in the burrow of the larva of *Tremex* and not in the larva itself, so it is an external and not an internal parasite of the larva. The ovipositor performs the part of a saw and drills a hole in the bark over the burrow of *Tremex*. Owing to the great length of the ovipositor, it was long a question how the insect could reach the bark to deposit its eggs. It is accomplished by the insect so manipulating the organ with its feet as to form a double coil in a special membrane between the last two segments of the abdomen, then curving it over and passing it downward so as to reach the wood. In the pupa this ovipositor is bent round and along the ventral surface and then backwards again along the dorsal surface.

A "HUMAN PARASITE."—Prof. Riley mentions in a general way the occurrence of parasites upon or in the human body. He mentioned particularly the case of a lady in Washington who felt herself stung by some insect. In the course of a few weeks she was annoyed by a pimple on her neck. When pressed, there was forced from the spot a small larva, of some species of bot-fly, but as nothing was known of its parent, its identification was impossible. Reference was also made to another parasite noticed by a physician of New Orleans, an account of which had been given in a late number of "Insect Life."—*Jos. F. James.*

---

## EMBRYOLOGY.<sup>1</sup>

**THE BYSSUS OF THE YOUNG OF THE COMMON CLAM (*Mya arenaria* L.).**—During the past summer Mr. Vinal N. Edwards, the well-known collector of the U. S. Fish Commission, at Woods Holl, found young clams adhering in great numbers to the surface of floating timbers in the harbor of New Bedford, Mass. They were associated with Ascidians (*Molgula*) in this unusual position, and very naturally attracted the attention of so observant a field-naturalist as Mr. Edwards, who very kindly brought me an abundant supply of specimens. The masses as they came into my hand were in flakes formed of marine algæ and earthy matters, sand, and mould, which

<sup>1</sup> This Department is edited by Prof. John A. Ryder, University of Pennsylvania, Philadelphia.

had been peeled off of the surface of the floating timbers. These masses were traversed superficially by a mat of fibres which were found to be derived from the outer tunic or mantle of the Ascidians, by means of which the latter were adherent to their support.

At first, in separating the young clams from their singular place of support, it was supposed that their rather firm adhesion was altogether due to their having been caught during the very early veliger stage in this mat of fibres formed about the bases of the Ascidians. As they grew larger it was further supposed that they were held fast in their unusual position by the fibres and cement substance secreted by the mantles of their Ascidian neighbors, and thus were suffered to attain a considerable size (from two to fifteen millimetres) before they finally became free and sank into a more favorable position on the bottom. However, further investigation showed that in this I was in error, for after a careful search, a few individuals were found from which a single byssal thread was found to proceed, invariably from the point where the tip of the foot is thrust through the median opening in the mantle. To make it still more certain that there should be no mistake, the byssal thread was pulled out of its insertion in several specimens, when it was found to present the irregular swollen proximal end usually found to characterize the intraglandular portion of the byssus in molluscs which possess this organ. The subject at this point became sufficiently interesting to warrant farther study, and, inasmuch as but a few individuals were found which had the byssal thread in place, that structure being usually torn loose in removing the specimens from their support amongst the Ascidians, it became necessary to resort to the methods of sectioning to determine if there was a byssal gland present in the foot.

To this end a number of specimens were treated first with a dilute chromic acid solution (one-half per. cent.). After this had fixed the tissues, the solution was renewed and acidulated with nitric acid (one-half per cent.), and allowed to act until all of the calcareous matter had been removed from the shell. This left the specimens in good histological condition for cutting, after which the specimens were washed, dehydrated, and saturated with celloidin, in which they were embedded and sectioned on a Schanze microtome.

The sections were cut parallel to the median longitudinal plane, or so as to coincide with the union of the edges of the mantle along the margins of the valves. Besides disclosing the unmistakable anatomical structure characteristic of *Mya*, there was found in the sections of the median region at the apex of the foot a median saccular depression which was undoubtedly the byssal gland with the thread in place or with remains of the secretion from which the byssal thread was formed.

This discovery leaves no doubt as to the fact that this well-known mollusc is provided with a byssus during its early life. One series of sections in my possession, from a specimen ten millimetres long, shows the structure admirably. How much longer than usual

the young clams were kept suspended in this instance on account of their accidental and supplementary adhesion to the Ascidians cannot be determined, but it is fair to suppose that their period of suspension would be prolonged on that account beyond the usual time.

The presence of a byssal attachment in *Mya arenaria* reopens the question of the life-history of this important shell-fish. In fact, it is probable that some of its allies may have an unknown byssal stage, and, perhaps, types somewhat distant from it in the system, but with similar habits in the adult condition, such as *Glycimeris* and *Panopæa*, may also have such a stage. In that case the methods hitherto proposed to be adopted in order to secure the young for purposes of transplanting would have to be greatly modified. It is very probable that this arrangement is a protective one and that the suspension of the young of *Mya arenaria* is for the purpose of protection during the early and most precarious period of existence of the animal. To obtain the early stages of the young it will accordingly be necessary to resort to some form of "collector" or cultch, such as is used in oyster-culture, to allow the fry to affix itself.

While there is a very sharply defined homogeneous larval shell or protoconch in the young oyster, this seems to be absent or not sharply defined in the young of *Mya arenaria* in specimens two to three millimeters long. In *Chlamydoconcha* the protoconch or larval shell is preserved even in individuals supposed to be adult, since here both valves are completely invested by the closed mantle sac, the shell being internal. The detection of a byssus in the young of *Mya* is of interest also from the fact that it suggests that such organs are probably present in the young stages of still other Lamelli-branches, where it has not been hitherto suspected.—*John A. Ryder.*

---

## PHYSIOLOGY.<sup>1</sup>

ON THE RHYTHM OF THE MAMMALIAN HEART.—Prof. John A. McWilliam,<sup>2</sup> of the University of Aberdeen, extends to a study of the mammalian heart the methods of work which in the hands of Gaskell, Mills, himself, and others have led recently to such valuable results concerning the organ in Fishes, Amphibians, and Reptiles. He experiments with cats, dogs, rabbits, hedgehogs, guinea-pigs, and rats, partly on the excised heart and partly on the heart *in situ*, and obtains many interesting data, which he compares with the known facts in the cold-blooded animals. As in the latter, so in

<sup>1</sup> This Department is edited by Dr. Frederic S. Lee, Bryn Mawr College, Bryn Mawr, Pa.

<sup>2</sup> The Journal of Physiology, Vol. 9, p. 167.